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IN THE

# Supreme Court of the United States

FRIENDS OF GATEWAY, EDUCATORS OF GATEWAY, FLOYD BENNETT FIELD GARDENS ASSOCIATION,

*Petitioners*,

v.

NORMAN Y. MINETA, SECRETARY OF TRANSPORTATION, JANE GARVEY, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION, UNITED STATES DEPARTMENT OF TRANSPORTATION, FEDERAL AVIATION ADMINISTRATION,

*Respondents*.

**On Petition for Writ of Certiorari to the United States Court of Appeals for the Second Circuit**

## SUPPLEMENTAL APPENDIX

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38 pp

# U.S. DEPARTMENT OF TRANSPORTATION
# FEDERAL AVIATION ADMINISTRATION

## RECORD OF DECISION
## FOR TERMINAL DOPPLER WEATHER RADAR TO SERVE JOHN F. KENNEDY INTERNATIONAL AND LAGUARDIA AIRPORTS, NEW YORK CITY, NEW YORK

### Section 1. Decision

Pursuant to the authority granted to the Administrator of the Federal Aviation Administration (FAA) found at 49 United States Code (U.S.C.) Subtitle VII, Part A, and a careful review of the administrative record, including the final environmental impact statement (EIS) released in January 1999, it is the final determination of the FAA that installation and operation of the Terminal Doppler Weather Radar (TDWR) to serve John F. Kennedy International (JFK) and LaGuardia (LGA) Airports at the U.S. Coast Guard (USCG) Air Station Brooklyn site in Kings County, New York, is approved. This action was identified as both the agency's preferred alternative and the environmentally preferable alternative in the final EIS.

The proposed action of installing a single TDWR to serve JFK and LGA Airports is consistent with the responsibilities of the FAA Administrator under 49 U.S.C. §§44501 and 44502 *et seq.* This action is also consistent with direction provided by Congress in the 1995 Department of Transportation and Related Agencies Appropriations Act, P.L. 103-331 (Sept. 30, 1994), Conference Report on H.R-4556, 103rd Congress, 2nd Session, 140 *Congressional Record* 9-603 (Sept. 26, 1994). In reaching this decision,

careful consideration has been given to aviation safety and operational needs as well as potential environmental effects.

A discussion of the factors considered by the FAA in reaching this decision follows.

## Section 2. Purpose and Need

The purpose of the proposed action is to detect and track severe weather in the vicinity of JFK and LGA Airports. That information is used to warn pilots of potentially hazardous weather conditions, thereby enhancing aviation safety, and to plan airport runway use configurations, thereby enhancing the efficiency of airport operations. However, the proposed action will not result in changes at either airport in airport capacity, number of flights, airport approach and departure procedures or standard flight paths of aircraft arriving or departing those airports.

The FAA, as part of the U.S. Department of Transportation (DOT), routinely develops and deploys advanced weather surveillance systems to serve the nation's airports. The Administrator of the FAA is authorized and directed by Title 49 U.S.C. §44502 to prescribe, among other aviation-related activities, the locations of air safety systems such as TDWR. TDWR is an automated radar system designed to provide accurate and reliable detection and tracking of severe weather conditions that are hazardous to aircraft, thereby enhancing aviation safety. TDWR is a highly sophisticated Doppler weather radar and represents a significant improvement over alternative methods of detecting and tracking severe weather features. It is specifically designed to detect and track Microbursts, a type of wind shear that presents a grave risk to aircraft in flight and has been the primary cause for a number of aircraft accidents and hundreds of fatalities. A tragic example of this hazard is

Eastern Airlines flight number 66; that plane crashed due to wind shear on approach to JFK Airport in 1975, resulting in 112 deaths. Hazardous weather has been identified as a cause of 18 accidents involving commercial aircraft since 1970, resulting in 575 fatalities. A Doppler weather radar system located at the U.S. Coast Guard Air Station Brooklyn site will enable the FAA to improve the safety of air travel at JFK and LGA Airports through the timely detection, tracking, and reporting of severe weather.

The U.S. Congress has appropriated funds for 47 TDWR units to serve high-priority airports. Prior to Fiscal Year 1995, the FAA proposed the installation of two TDWR units to serve JFK and LGA Airports in New York City----one *TDVWR* at the Roslyn Air National Guard Station in Nassau County, New York, to serve LGA airport and a second TDWR at the Bellmore U.S. Army Reserve Center in Nassau County, New York, to serve JFK airport. However, after Congress directed the FAA, in the House/Senate Conference Report accompanying the 1995 DOT Appropriations Act, to install a single TDWR to serve both JFK and LGA Airports, the FAA conducted an in-depth site survey of a single TDWR to serve the two airports. TDWR survey found that a single TDWR, located at the U.S Coast Guard Air Station Brooklyn site, could most effectively track, detect, and report severe weather that may affect aircraft using JFK and LGA Airports.

Of the 47 TDWR units for which funds were authorized by Congress, 39 have been commissioned and are in full operation serving high priority airports in the U.S., two units are being used for technical support and training at the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma, four are installed and in pre-commissioning check-out and the remaining two units are planned for installation in the near future, one to serve JFK and LGA Airports and the

other to serve Chicago Midway Airport. The production line for TDWR units has long been closed and the manufacture of additional TDWR units is not practical or economically feasible. Thus, in keeping with congressional direction and the, availability of a single TDWR unit, the FAA has determined that a single TDWR will be issued to serve JFK and LGA Airports at the former U.S. Coast Guard Air Station Brooklyn. Installation of a single TDWR at this site will most effectively provide the radar coverage required to reduce severe weather hazards to aircraft approaching and departing JFK and LGA Airports.

**Section 3. Proposed Action**

TDWR is an automated radar operating at a frequency of 5,600 to 5,650 megahertz. This TDWR system will consist of a 25-foot parabolic dish enclosed in a 37-foot diameter fiberglass radome, mounted on a steel-lattice tower with a height of 82 feet. The total height of the structure will be 117 feet. Electronic equipment and a standby generator to provide emergency electric power will be enclosed in a one-story, roughly 1,200-square- foot building at the base of the tower. These items will be located within a 110-foot by 110-foot fenced area. TDWR is automated and no staff will normally be present at the site; periodic maintenance visits will occur about once per week. The proposed location for TDWR is a 1. 8 1 -acre FAA-owned parcel at the former U.S. Coast Guard Air Station Brooklyn at Floyd Bennett Field in the Borough of Brooklyn (Kings County), New York City. The former U.S. Coast Guard property has been used for aviation and transportation purposes for over six decades and is part of Floyd Bennett Field, a former municipal airport and U.S. Navy base. In 1972, the Gateway Act (16U.S.C.§460cc-1 et. seq.] established Gateway National Recreation Area (NRA). Included within the boundaries of the recreation area were a number of

properties owned by a number of federal agencies, including the Departments of Defense and Transportation (e.g., U.S. Coast Guard Air Station Brooklyn), and properties owned by local government and private parties.

After establishment of Gateway NRA, the U.S. Coast Guard Air Station Brooklyn continued as a base for helicopter operations in Support of search and rescue missions until its closure by the U.S. Coast Guard in 1998. After closure of the air station the property, with the exception of the 1.81-acre FAA parcel was, transferred to the National Park Service. The National Park Service, in turn, leased the property for a period of 25 years to the New York City Police Department for operations of the Aviation Unit and the property is currently used for helicopter landings and takeoffs and maintenance and repair of police helicopters. The FAA parcel planned for installation of TDWR is wholly surrounded by the property leased to the New York City Police Department and is roughly 400 feet south of the helicopter operations area actively used by the Police. The FAA property is only accessible by crossing the police property and access to the police property is restricted to authorized persons only, because of the hazard from helicopter operations as well as the need for security.

The FAA property and the surrounding New York City Police Department leasehold property generally are within the recreation area as defined by the Gateway Act which established Gateway NRA. However, there are no recreational resources located at the FAA property. The general public is not allowed onto either the police or FAA properties and no public recreational activities occur on either of these properties. The entire former U.S. Coast Guard property, including both the police and FAA properties, is expressly designated as a nonpark use area by the Gateway *General Management Plan,* prepared by the

National Park Service. Even in the absence of TDWR, the access restrictions necessary for police helicopter operations would prevent use of the FAA property by the general public for recreational purposes. Installation of TDWR would not remove any property from existing or possible future recreational or other use by the public, at least for the twenty-five years during which the adjacent property is leased to the New York City Police Department for the purpose of conducting helicopter operations.

The installation of TDWR at the former U.S. Coast Guard Station Brooklyn is consistent with the purpose and intent of the Gateway Act. Moreover, the Gateway Act does not prohibit the installation of the TDWR at the FAA property at Floyd Bennett Field. Section 3(e) of the Gateway Act [16 U.S.C. §460cc-2(e)] specifically recognizes the "authority of the Secretary of Transportation to install necessary new facilities within the recreation area ... in accordance with plans which are mutually acceptable to the Secretary of the Interior and the Secretary of Transportation and which are consistent with both the purposes of this subchapter and the purpose of existing statutes dealing with the establishment maintenance, and operation of airway facilities...." While the TDWR is equipment to be installed on an existing airway facility, and not a "new facility" within the apparent intended meaning of the Gateway Act its use of the existing facility is consistent with the National Park Service's Gateway *General Management Plan* designation of this area for "nonpark use." The lease by the National Park Service of the property surrounding the FAA property to the New York City Police Department demonstrates that this plan for this area to be for nonpark use is intended to continue for at least the next 25 years. This plan of the Secretary of the Interior has been and remains acceptable to the Secretary of Transportation.

Section 3(e) also states that it does not authorize the "expansion" of airport runways into Jamaica Bay or air facilities at Floyd Bennett Field. Expansion of "airport runways" and associated "air facilities" (e.g. taxiways, hangars etc.) is very different than "installation" of equipment such as the TDWR. Nowhere in the statute is there a prohibition of "installation" of equipment at Floyd Bennett Field. Nor is there any mention of such a prohibition in the Conference Report on the Gateway Act. The only reference found in the Conference Report is to "airway facilities" where paragraph 12 of the Joint Statement of the Committee reads: "The committee accepted the House provision prohibiting further extension of the runways into Jamaica Bay." [Legislative History, P.L. 92-592, Conference Report No. 92-1589, 92nd Congress, Second Session 1972)] Reading this statement together with Section 3(e), it is clear that what Congress intended to preclude that section was expansion of runways and similar facilities, not installation of needed equipment such as TDWR.

Careful consideration of the past and present uses of the site and vicinity and detailed environmental analyses contained in the final EIS show that installation and operation of TDWR at this site will not result in significant adverse effects on natural and cultural resources of the area, including the recreation values of Gateway NRA Installation of TDWR at this site is in accordance with the Gateway *General Management Plan,* published by the National Park Service, which designates the entire former U.S. Coast Guard Station Brooklyn, including the 1.8 acres owned by the FAA, as a nonpark use area.

Construction of TDWR is expected to occur during 1999 and will last approximately 4 months. Tower and electronics delivery through flight check and commissioning will last an additional 6 months. All construction waste will be removed

from the site and properly disposed off-site, in permitted waste disposal facilities. TDWR is expected to be in service for approximately 20 years, the typical life span for this type of equipment.

## Section 4. Alternatives Considered

The Final EIS evaluates potential environmental effects of the proposed action and seven alternative actions, described below:

**TDWR at the selected site (agency's preferred alternative) at former U.S. Coast Guard Air Station Brooklyn.** TDWR at this site would provide low-level radar coverage of the essential microburst warning area for both JFK and LGA Airports. It would also be easier to access and maintain than TDWR at the alternative locations considered in the Final EIS and, as a result, would be in service a greater proportion of the time.

**TDWR at a site on Hart Island in the Borough of the Bronx, New York City.** TDWR located at Hart Island would require installation of a roughly 3,000-foot underwater cable between City Island and Hart Island to provide telephone and electric service. TDWR at Hart Island would provide slightly better radar coverage of LaGuardia Airport but much worse coverage of JFK Airport.

**TDWR at a typical ocean site.** This alternative was suggested by members of the public during the EIS scoping period. The TDWR would require extensive design modifications for ocean use and conditions, including but not limited to personnel safety facilities, exterior fighting and a foghorn to reduce

the risk of a boat collision with TDWR, and installation of a runway 2-mile underwater cable in Lower New York Bay to provide electric power and telephone service for TDWR.

**TDWR adjacent to the U.S. Coast Guard Ambrose Light in Lower New York Bay.** This alternative was suggested by members of the public during the EIS scoping period. A new ocean platform would have to be constructed because the U.S. Coast Guard platform could not physically accommodate TDWR. The design modification described above for TDWR at the ocean site and a roughly 6- mile underwater cable in Lower New York Bay would be necessary to provide electric power and telephone service for TDWR.

**Electronic wind shear systems on aircraft.** These systems are only available for certain types of larger, generally commercial, aircraft and provide far less warning time than TDWR. Many aircraft could not be equipped with these systems and would not be protected.

**Airport surveillance radar/weather system processor (ASR/WSP).** An electronics upgrade package, known as a weather system processor (WSP), would add severe weather detection, tracking, and reporting capabilities to the existing airport surveillance radar- (ASR) at IFK Airport. ASR/WSP could not be installed at LGA Airport because there is no ASR at that airport and no plans to install one. Due to the limited range of ASR/WSP, an ASRIWSP at JFK Airport could not serve LGA Airport.

**FAA use of the existing Doppler 4000.** This alternative was suggested by members of the public during the Draft EIS comment period. Doppler 4000 is a weather radar owned and operated by a private television station in Manhattan. Doppler 4000 is not designed to detect wind shear and microbursts, two of the most hazardous weather conditions to aircraft and is poorly located to provide low-level radar coverage of JFK and LGA Airports.

**No-action alternative.** This alternative would not fulfill the need to provide timely warning to pilots and air traffic controllers of severe weather conditions.

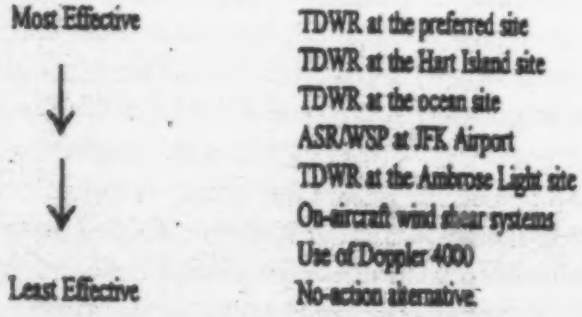
The Conference Report accompanying the DOT and Related Agencies Appropriations Act for Fiscal Year 1995 expressly addresses the need for wind-shear protection for New York City airports. (Conference Report on H.R. 4556, 103rd Congress 2nd Session (1994)). In the Conference Report the conferees also expressed that they 'firmly" supported the proposition that TDWR "... will not be sited in North Bellmore or Roslyn' and directed the FAA to site a single TDWR to serve both LaGuardia and IFK Airports.

Installation of a single TDWR at the Bellmore site or the Roslyn site would not provide coverage for both airports. Therefore, in accordance with congressional direction, neither installation of two TDWR at sites in Roslyn and Bellmore, nor the installation of a single TDWR at either site were further examined in this final EIS as alternative actions. In addition, as the Report language evidences congressional disapproval and strongly suggests intent not to fund TDWRs at these sites, these sites were remote, speculative, and no longer reasonable alternatives capable of implementation. In light of the close of production and the fact that there is now

only one TDWR available for installation to serve both JFK and LGA Airports, these sites are also unreasonable to meet the purpose and need of the proposed action. Given the lack of potentially significant adverse impacts of the preferred alternative, the National Environmental Policy Act's goals and policies would not be served by retaining these sites for detailed study and seeking to modify Congressional approval or funding.

Congressional direction aside, given the close of production and the fact that only one TDWR is now available to serve both JFK and LGA airports, the installation of two TDWRs at two separate sites for each JFK and LGA Airports is no longer a reasonable alternative.

The effectiveness of each alternative analyzed in the final EIS at fulfilling the required mission is based on the volume of airspace for which radar coverage is provided, the location of radar coverage with respect to airspace at and near the two airports of concern, and the types and numbers of aircraft served. In terms of mission effectiveness, the proposed action and alternatives are ranked from most effective to least effective as follows:


Most Effective
Least Effective
TDWR at the preferred site
TDWR at the Hart Island site
TDWR at the ocean site
ASR/WSP at JFK Airport
TDWR at the Ambrose Light site
On-aircraft wind shear systems
Use of Doppler 4000
No-action alternative

On-aircraft wind shear systems, ASR/WSP, or use of Doppler 4000 would not fulfill the mission; therefore these alternatives were not analyzed in the Affected Environment and Environmental Consequences and Mitigation sections of the Final EIS. The no-action alternative would also not fulfill the mission, but is extensively analyzed in the Final EIS for comparative purposes as required by Council on Environmental Quality Regulations at *40 Code of* ***Federal Regulations*** **(CFR) 1502.14** and chapter 6, **paragraph** 64 of **FAA** Order 1050. ID.

**Section 5. Mission Effectiveness of Alternatives**

The mission of TDWR is to detect and track severe weather events that may be hazardous to aircraft during flight landings, or take-offs, or that may affect airport operations. TDWR fulfills that mission by providing radar coverage of the microburst alert warning area (MAWA) which surrounds the runways at the airports of interest and the principal coverage region (PCR), which is the area within 6 nautical miles (nmi) of the approximate center of the airport. The extent to which TDWR can provide radar coverage of the MAWA and PCR depends on the location of TDWR with respect to the airports to be served. The degree to which an alternative technology such as ASR/WSP can provide radar coverage is also dependent on the location of its host radar with respect to the airports of interest. On-aircraft systems are mounted on a mobile platform (the airplane), thus the location with respect to the airport is not of concern as is the case for stationary radar systems. Table I summarizes the mission effectiveness of the alternatives (except the no-action alternatives, compared to the proposed action of installing TDWR at U.S. Coast Guard Air Station Brooklyn site, agency's preferred alternative. The analysis presented in Table 1 accounts for all factors affecting mission

effectiveness, including distance to the airport angle to the runway most used during inclement weather, cone of silence, radar blockage by hills and buildings, portion and types of aircraft served, earth curvature, and difficulty of operation and maintenance.

As shown in Table 1, the proportion of time which a TDWR at Hart Island could operate would be less than for TDWR at the preferred site because of the relatively inaccessibility of Hart Island, which is served by a ferry operating only 14 percent of the time. TDWR at Hart Island would have suitable angles to the runways at JFK Airport most used during inclement weather, but would have a radar floor at considerably greater height above the airport than that of TDWR at the preferred site. Radar coverage of JFK Airport would be considerably poorer from TDWR at Hart Island than from TDWR at the preferred site because of the distance from JFK Airport which is greater than optimal and blocking of the radar beam by hills and buildings. TDWR at Hart Island would be closer to LGA Airport than TDWR at the preferred site and would have an acceptable angle to the runway used most during inclement weather. However, blockage of the TDWR beam would be caused by the towers of the Throgs Neck and Whitestone Bridges as well as vehicles on those bridges, and could adversely affect the effectiveness of radar coverage. Overall the deficiency in radar coverage of the JFK Airport and access difficulties would render TDWR at Hart Island less effective than TDWR at the preferred site.

On-aircraft wind shear systems are much more limited in their capabilities than TDWR, They do not provide comprehensive radar coverage of the airport area, as TDWR would, but would provide limited radar coverage for use by the individual pilots flying equipped planes. The information from these systems is not widely distributed to air traffic

controllers, who relay the information widely to Airport users, as is the case for TDWR data. On-aircraft wind shear systems also have reduced range and detection capabilities compared with TDWR. Because of the relatively small percentage of airplanes that are or can be equipped with such Systems and the lesser technical capability, ties alternative would not be able to effectively fulfill TDWR's mission.

ASR/WSP is designed to provide similar inflation as TDWR. However, like TDWR, its effectiveness is dependent upon location with respect to the airports to be served. The ASR-9 host at JFK Airport is located on the airport near the runways most used during inclement weather.

Since ASR cannot scan at high elevation angles and is located at the airport, WSP's effectiveness would be reduced substantially. Portions of the MAWA and PCR for JFK Airport would be included in the cone of silence for ASR/WSP and would not receive radar coverage. The portions of the MAWA and PCR for JFK Airport not receiving radar coverage would be far greater than for TDMM installed at the preferred site. The angles to the runways at JFK Airport most used during inclement weather are somewhat better for this alternative than for the TDWR at the preferred site. Overall, this alternative would be substantially less effective at serving JFK Airport than TDWR at the preferred site. Due to intervening obstructions, radar coverage of LGA Airport would be considerably poorer for ASR/WSP than the TDWR at the preferred site. In addition, the angle to the runway most used during inclement weather would be much larger for ASR/WSP than for TDWR at the preferred site. Both factors would cause ASR/WSP to provide considerably reduced radar coverage of LGA Airport compared with the TDWR at the preferred site. To summarize, this alternative would provide less

effective radar coverage of both JFK and LGA Airports than the TDWR at the preferred site.

TDWR at an ocean site would also offer less effective coverage than TDWR at the preferred site. TDWR at an ocean site would be similar to the TDWR at the preferred site in terms of both radar coverage of JFK Airport and angles to runways at JFK Airport. TDWR at an ocean site would be the optimal distance from JFK Airport (8-12 nmi) while TDWR at the preferred site would be less than optimal distance from JFK Airport. However, this would be offset by physical blocking of the TDWR signal by the buildings on Rockaway Island, which would reduce the effective coverage of JFK Airport by TDWR at an ocean site. Radar coverage of JFK Airport by TDWR at the preferred site would, not be affected by those buildings. With regard to LGA Airport, the floor of radar coverage would be higher above airport level than for the TDWR at the preferred site. There would be little difference between this and the TDWR at the preferred site in angles to the runway most used during inclement weather. TDWR on an ocean platform would be available for operation for a far lower percentage of the time that TDWR at the preferred site, because of the relative difficulty of accessing an ocean platform. Thus, the TDWR at the preferred site would be considerably superior at serving LGA Airport than this alternative.

Table 1
MISSION EFFECTIVENESS OF ALTERNATIVES
COMPARED WITH TDWR AT THE PREFERRED SITE

| | TDWR at Hart Island | On-aircraft Wind shear systems | ASR/WSP at JFK | TDWR At Ocean Site | TDWR at Ambrose Light Site | Doppler 4000 Radar |
|---|---|---|---|---|---|---|
| Radar Coverage of MAWA/PCR | | | | | | |
| JFK | -- | N/A | - | 0 | - | - |
| LGA | + | | -- | - | -- | - |
| Angle to Inclement Weather Runway | | | | | | |
| JFK | 0 | N/A | + | 0 | 0 | -- |
| LGA | + | | -- | 0 | - | - |
| Advance Warning of Weather Events | yes | some systems only | yes | yes | yes | yes |
| Airplanes Served | all | Equipped commercial jets only | all | all | all | all |
| Service Availability | -- | -- | 0 | -- | -- | 0 |

\+ Marginally superior to preferred action
\- Marginally inferior to preferred action
-- Considerably inferior to preferred action
0 Similar to preferred action
N/A Not applicable

TDWR located at the Ambrose Light site would be an appropriate distance from JFK Airport but much further from LGA Airport than is acceptable. In regard to geometry to the runways most used during inclement weather, the angle to JFK Airport would be acceptable, but the angle to LGA Airport would be far larger- than is desired. In general radar coverage of JFK Airport would be fairly good but radar coverage of LGA Airport would be much poorer than for TDWR at the preferred or other alternative sites contained in this Final EIS. The amount of time in service would be reduced by the difficulty of repairing TDWR and its infrastructure in an ocean setting.

Although Doppler 4000 can provide information of general weather conditions, it cannot identify wind shear or microbursts. Its location, at large angles to the runways used during inclement weather, and height above the ground will

adversely affect its capabilities Thus, Doppler 4000 cannot fulfill TDWR's mission.

With regard to overall mission effectiveness, TDWR at the preferred site and alternatives can be ranked as follows (from most effective to least effective): TDWR at the U.S. Coast Guard Air Station Brooklyn site, TDWR at Hart Island site, TDWR at ocean site, ASRIWSP, TDWR at Ambrose Light site, on-aircraft wind shear systems, Doppler 4000 and the no-action alternative. ASR/WSP and on-aircraft wind shear systems alternatives would be deficient in filtering the desired mission. ASR/WSP would not detect wind shear or microbursts at LGA Airport. On-aircraft systems provide a much-reduced warning time for aircraft in the vicinity of wind shear than would TDWR Many aircraft are not required to have such systems, and commercially available systems are lacking for some types of aircraft. The deficiencies of ASR/WSP and on-aircraft wind shear systems are substantial and these systems would not achieve the desired mission. The no-action alternative would also not fulfill the mission.

**Section 6. Environment Impact Assessment**

The Final EIS evaluates in detail the proposed action and the alternatives described above. The following impact categories were analyzed in the Final EIS to determine the potential for installation and operation of TDWR at the U.S. Coast Guard Air Station Brooklyn site to affect the quality of the human environment:

1. Radio Frequency Radiation (RFR) Effects-TDWR radio emissions will comply by a wide margin with current national safety standards, developed by the American National Standards Institute and included in FAA Order 3910.3A, for exposure of the general public to radio

signals. No health hazards to persons in the vicinity would result.

2. Land Use and Coastal Zone Management-The FAA has determined, and the State of New York concurs, that TDWR at this location will be consistent with the New York State Coastal Management program. Federal regulations do not require the FAA to comply with local zoning law. As such, TDWR is exempt from local zoning regulations. However, New York City has zoned the TDWR site as an "Ml - I" manufacturing district and a radio tower, such as TDWR, is an allowable use in that district.

3. Geology and Soils--The site is level and no significant ground erosion or topographic alteration will be required for TDWR installation

4. Water Resources and Hydrologic Processes--The site is not within a 100-year floodplain does not contain federal-jurisdiction wetlands. TDWR will not generate wastewater during operation and will not result in adverse effects on water quality of Jamaica Bay.

5. Air Quality-TDWR will include a standby generator that will operate infrequently. Air emissions generated by the generator or vehicles used during construction and operation of TDWR will not cause or add to violations of federal or state air quality standards.

6. Flora and Fauna-Adverse impacts will not result on species listed under the Endangered Species or Marine Mammals Acts. The U.S. Fish & Wildlife Service and the National Marine Fisheries Service Concur with that determination.

7. Recreational Resources-The TDWR site is designated by the National Park Service as a nonpark use area within Gateway NRA and no recreational resources will be displaced or significantly affected. The FAA parcel planned for installation of TDWR is wholly surrounded by the property leased to the New York City Police Department and roughly 400 feet south of the helicopter operations area actively used by the New York City Police. The FAA property is only accessible by crossing the police property and access to the police property is restricted to authorized persons only, because of the hazard from helicopter operations as well as the need for security.

8. Section 4(f) properties (i.e. publicly owned park land, recreation area, wildlife or waterfowl refuge, or historic site)-Section 4(f) of the Department of Transportation Act, 49 U.S.C. §303, does not apply to the installation of the TDWR at the former U.S. Coast Guard Station Brooklyn located at Floyd Bennett Field. First, consideration under Section 4(f) is not required because the site was acquired for transportation purposes before the Gateway NRA was designated. [See, 23 C.F.R-Section 771.135(h)]. Second, as the land has been publicly owned for transportation purposes, it is not considered publicly owned for park or recreational purposes within the meaning of Section 4(f). Third, where, as in this location, Federal lands are administered for multiple purposes, the Federal official having jurisdiction over the lands determines whether the subject lands are in fact being used for park, recreation, wildlife, or waterfowl or historic purposes within the meaning of Section 4(f). Although the entire former U.S. Coast Guard property, including the 1. 8 acres owned by the FAA, is technically within the boundaries of the Gateway NRA, the property is one of several portions of the area

which are not in fact being administered or used for park or recreational uses. It is undisputed that the historic use of the land owned by the FAA has been for aviation purposes. This nonpark use is evidenced by the Gateway General Management Plan [NPS, 1976] Which the National Park Service issued to implement the Gateway Act. This Plan expressly indicated that the former U.S. Coast Guard property is designated as a nonpark use area. The 1.8 acres owned by the FAA are within approximately 400 feet of a maintenance apron and active runway used by the New York City Police Department. The New York City Police Department has relocated its helicopter operation to the former U.S. Coast Guard Property under a twenty-five year lease. For security reasons, the New York City Policy Department has continued the restriction on public access and no recreational park visitors have access to the area. Further, because of the security restriction, there are no recreational activities in the vicinity of the FAA property. Therefore, even if Section 4(f) did apply, there will be no actual direct or constructive use of a protected resource under Section 4(f) as a result of the installation of the TDWR at the FAA site.

9. Visual Quality-TDWR will be visible from many local areas but will not be unusual in appearance or overly obtrusive in setting-a former Navy and Coast Guard base now used for helicopter operations by the New York City Police Department.

10. Cultural Resources-The FAA ha determined, and the State Historic Preservation Office (SHPO) and Advisory Council on Historic Preservation (ACHP) concur, that construction and operation of TDWR will not adversely affect historic or cultural resources.

11. Hazardous Materials-All waste materials generated during TDWR construction will be sent to a proper disposal facility as required by the Resource Conservation and Recovery Act.

12. Noise--Noise generated during TDWR construction or operation will not adversely affect sensitive receptors. Installation of the TDWR will not result in any increase in airport capacity at either LGA or JFK Airports. No changes in aircraft flight paths or procedures would result and aircraft noise levels would not be affected.

13. Transportation-During both the construction and operation periods, TDWR would generate a minimal number of vehicle trips and would not adversely affect the level of service of local roads.

14. Energy Consumption-TDWR would consume an estimated 840 kilowatt-hours per day, about the same as 40 typically sized houses. Energy consumption would not exceed the capability of the local service provider.

15. Socioeconomics--TDWR would provide an extremely modest economic benefit to the local economy in the form of expenditures, particularly during the construction period. No substantial growth-inducing effects would result.

16. Environmental Justice--Based on U.S. Census data, the communities surrounding the TDWR site contain lower percentages of minority and low-income populations than Kings County as a whole. No disproportionately high and adverse effects would result on minority or low-income populations or children. Exposure of persons to radiofrequency radiation will comply with applicable

national safety standards. Therefore, there will be no hazards to persons in the vicinity.

The final EIS contains a thorough investigation of these issue areas and determines that no significant environmental impact will result from the installation and operation of TDWR at the U.S. Coast Guard Air Station Brooklyn site (the environmentally preferable alternative.)

The final EIS also compares the proposed action with the alternative actions described above. Installation of TDWR at the preferred site or implementation of any of the alternative actions, with the exception of the no-action alternative, would result in physical changes to the environment and resulting direct and indirect effects on environmental resources. The type and extent of environmental effects would vary considerably among the proposed action and alternatives. The proposed action and each of the alternatives would be compatible with existing and planned land uses and New York City zoning at and near the proposed implementation site. Effects on long-term productivity of the land at the preferred and alternative site would likewise be negligible. Coastal zone policies are applicable to installation of TDWR at the preferred site, Hart Island site, or an ocean site, and installation of ASR/WSP at JFK Airport; each of those options would be consistent with policies set forth in the New York City and State coastal program. In fact each of these options would further the objectives of the local and state coastal programs by benefiting future development of aviation at New York area airports.

Direct physical impacts of TDWR include potential effects on land, water, and air. Clearing of small areas of vegetation would be required if TDWR is installed at the preferred site or Hart Island site. No significant habit would be affected. Soil erosion can be minimized through application of sound

construction practices and would be minor. Installation of TDWR at Hart Island site, an ocean site, or the Ambrose Light site would require burying an underwater utility cable in either Long Island Sound or Lower New York Bay, which could potentially cause temporary adverse effects on water quality. Installation of TDWR at the preferred or alternative sites would result in emissions of minor amounts of dust and diesel exhaust during the construction period and mission of exhaust from the standby generator in the long-term. Those emissions would not cause violations of air quality standards and would be insignificant. Implementation of the other alternatives (i.e., on-aircraft wind shear systems, ASR/WSP, Doppler 4000 data feed to ITWS, or the no-action alternative) would not require clearing of land, would not cause sod erosion, and would have little, if any, impact on air or water quality.

No significant impacts on recreational resources and activities, park land, or historic or archaeological cultural resources would result from implementation of the preferred action. The New York SHPO and the ACHP concur with that determination. In the absence of detailed field surveys at the Hart Island and ocean sites, possible impacts on archaeological resources from construction of TDWR at these alternative sites are not known. Due to a lack of nearby sensitive receptors, noise from construction of TDWR at Hart Island or an ocean site would not cause adverse effects. Noise from construction of TDWR at the preferred site would be audible to persons using portions of Gateway NRA, but because of the distance from the preferred site, would not unreasonably disrupt or prevent recreational activities. TDWR would not dominate views or be visually incompatible with surrounding facilities at the preferred or alternative sites. Visual impacts would be insignificant. The preferred site has been surveyed for the presence of archaeological resources and no evidence of resources was

found. Installation of the underwater utility cables to serve TDWR at Hart Island or Lower New York Bay could affect submarine archaeological resources.

Construction of TDWR or installation of ASR/WSP would result in a minor amount of local construction expenditures. TDWR or ASR/WSP would be unmanned and would be maintained by existing FAA organizations based at JFK Airport. Expenditures to operate TDWR would be greater for an ocean-based TDWR than for TDWR at Hart Island. TDWR at the preferred site or ASR/WSP would be least costly to operate. In any case, operational expenditures would be minor in relation to the size of the local economy. A thorough environmental justice analysis demonstrates that implementation of the preferred or alternative actions would not result in disproportionately high and adverse effects on minorities or low- income communities. Socioeconomic impacts would be insignificant for the preferred and each of the alternative actions.

Transportation needs and energy use would vary greatly among the alternatives. TDWR at an ocean site or at the Ambrose Light site would generate the greatest amounts of traffic (including land, water, and air trips) and consume the most energy during the construction and operation periods. The TDWR ocean platform would also create a collision hazard for vessels sailing in Lower New York Bay. TDWR at the Hart Island site would generate the second greatest amount of traffic and consume the second greatest amount of energy. The preferred site is the most easily accessible of the alternative sites for TDWR. Traffic generation and energy consumption would be less than for TDWR, at Hart Island or at ocean sites. Implementation of ASR/WSP, Doppler 4000 data feed to an Integrated Terminal Weather System (IWS), or the no-action alternative would generate little or no traffic and would consume little or no energy. Installation of on-

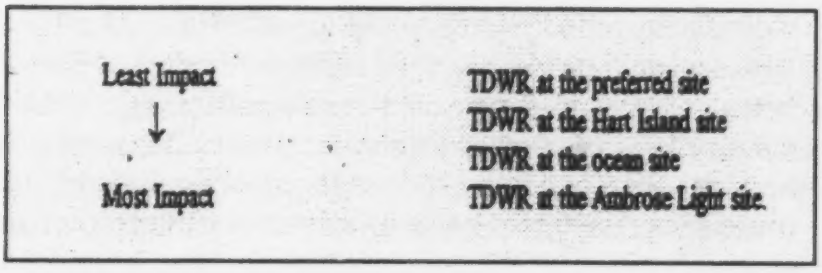
Aircraft wind shear systems would not generate traffic, but would result in consumption of relatively large amounts of energy because of the need to equip many aircraft.

Installation of TDWR at the preferred site would not substantially affect biological resources. Protected species are not present at the preferred site and would not be affected. Installation of TDWR in Hart Island or an ocean site has much greater potential to affect biological resources. In particular, dredging to install the underwater utility cable could harm marine fauna. Coastal wetlands and the biologically productive shoreline areas at Hart Island City Islands would be disturbed if TDWR is installed at Hart Island. The shoreline area at Rockaway Peninsula would be disturbed if TDWR is located in the ocean. The shore terminus for the utility cable serving an ocean-based TDWR could affect important habitat for the rare piping plover and seabeach amaranth. Due to the relatively short height of the TDWR tower and the lack of structural elements that are hard to see, the potential collision risk to birds would be minimal. Installation of on-aircraft wind shear systems or ASR/WSP, implementation of Doppler 4000 data feed to ITWS, or the no-action alternative would not affect biological resources.

The TDWR signal would comply by a wide margin with national and international safety guidelines for exposure of persons to peak and average levels of radio frequency radiation (RFR). Likewise, the TDWR signal would not affect operation of cardiac pacemakers. Based on engineering studies and operation of TDWR at other locations, TDWR would not cause interference with radio or television broadcasts or operation of model airplanes. The TDWR signal is not powerful enough to detonate electroexplosive devices, or affect fuel-handling operations. On-aircraft systems would be smaller and less powerful than

TDWR and would not cause RFR effects on persons or electronic systems or devices. Implementation of ASR/WSP, Doppler 4000 data feed to ITWS, or the no-action alternative would not generate new RFR emissions. RFR effects from implementation of the preferred or any or the alternative actions would be insignificant.

With regard to the potential for effects on the environment, the preferred and alternative actions that could fulfill the required purpose ran be ranked as follows:


Least Impact
Most Impact
TDWR at the preferred site
TDWR at the Hart Island site
TDWR at the ocean site
TDWR at the Ambrose Light site.

The action that would fulfill TDWR's mission with the least environmental impact is installation of TDWR at the U.S. Coast Guard Air Station Brooklyn site, which is the environmentally preferable alternative and the agency's preferred alternative.

## Section 7. Mitigation Measures

Based on the extensive studies conducted to date and careful consideration of public input, I find that installation and operation of TDWR at the U.S. Coast Guard Air Station Brooklyn site will not result in significant impacts on the quality of the human environment. The mitigation measures listed below will be implemented to reduce non- significant environmental impacts to negligible levels:

1. To reduce emissions of dust during the construction period, areas cleared of vegetation during construction will be watered periodically. Standard measures to control soil erosion, drainage, and washing of soil away from the site will be employed during the construction period. After construction of TDWR is completed, disturbed areas will be restored to their pre-construction condition to the maximum extent possible. This may require replanting of those areas with suitable native vegetation.

2. Excess soil and groundwater extracted during TDWR construction will be tested for the presence of petroleum products and if found to be contaminated at regulatory action levels, will be removed for proper treatment and disposal at facilities properly licensed to handle and/or accept such waste under Resource Conservation Recovery Act (RCRA) requirements, as required.

3. If potentially significant historic artifacts or human remains are uncovered during site preparation, construction activities will be suspended near the find and the New York SHPO will be contacted to determine the significance of the find. Necessary measures will be undertaken to protect and curate uncovered artifacts as deemed necessary by the SHPO.

4. To reduce noise impacts during the construction period, equipment should be turned off when not in use and construction activities should occur during normal working hours to the greatest extent possible. The TDWR standby generator should be equipped with a critical-grade silencer to minimize long-term noise impacts.

5. The finished floors of all occupied structures will be located at a minimum elevation of 11 feet MSL, which is one foot above the base flood level.

6. A spill prevention, containment and countermeasure plan for the on-site storage of diesel fuel for the standby generator will conform with FAA Order 1050.15A

7. Rewards of all maintenance and operational use of the TDWR standby generator will be maintained for at least five years in accordance with New York State Department of Environment Conservation regulations.

8. With the exception of the L-810 red aviation warning fight at the top of the radome, continuously operating and automatically timed exterior lights at the TDWR site will be shielded to minimize possible adverse effects on nearby uses and to minimize attraction of birds.

9. To enhance visual quality, the concrete masonry unit at the TDWR site will have a facing consistent with the character of neighboring park facilities.

10 The National Park Service, U.S. Coast Guard, and New York City Police Department will be apprised in advance of the schedule for construction activities to minimize the potential for conflicts with non-FAA activities in the vicinity.

11. If deemed necessary by the FAA, the FAA will provide to the New York City Police Department and the U.S. Coast Guard filters for installation on radio

systems operated by those agencies to prevent electromagnetic interference caused by the TDWR radio signal.

12. After the useful fife of the TDWR has ended, the FAA will decommission the system and remove it. The FAA will take the necessary steps, to the extent feasible, to implement a plan to reclaim the site to pre-TDWR condition as described in the EIS.

**Section 8. NEPA Coordination and Public and Agency Involvement**

The final EIS conforms with legal requirements set forth in President's Council on Environmental Quality *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR 1500 et *seq.)* and FAA Order 1050. ID, *Policies and Procedures for Considering Environmental Impacts.* A programmatic EIS, prepared in 1991 by the FAA, examined potential environmental effects of the nationwide TDWR program. The final EIS examines potential environmental effects of installing a single TDWR in the New York City area to serve JFK and LGA Airports. The FAA was the lead agency for preparation of the programmatic EIS and the final EIS.

A 135-day scoping period for the final EIS was conducted in January through June 1996, during which written comments on the scope of the EIS were accepted and four official scoping meetings were held in the potentially affected area of New York City. The results of the scoping process are summarized in a Final Scoping Paper, issued by the FAA in August 1996. The technical breadth of the final EIS is consistent with the recommendations of the Final Scoping Paper.

On August 15, 1997, a draft EIS was issued by the FAA and a Notice of Availability was *published in the Federal Register (62 Federal Register 43768).* Display advertisements and legal notices announcing the availability of the Draft EIS and schedule for public hearings were published in local newspapers. Copies of the draft EIS were neared to all parties who participated in the EIS scoping process, all persons who expressed interest to the FAA about the proposed action, and relevant government agencies. The draft EIS was distributed to over 600 persons and organizations. Comments on the draft EIS were accepted through November 21, 1997, a period of 98 days. A total of five public hearings were held in Brooklyn and Queens during the comment period and were attended. Copies of all written comments on the draft EIS received by the FAA and verbatim transcripts of the public hearings are included in the final EIS. All comments received during the comment period were carefully reviewed. The final EIS contains written, responses to all substantive comments received by the FAA, whether submitted in writing during the public comment period or verbally at the public hearings held on the draft EIS.

On January 20, 1999, the FAA issued the final EIS and a Notice of Availability was published in the *Federal Register.* Legal notices announcing the availability of the final EIS were published in local newspapers. Copies of the final EIS were mailed to over 800 persons and organizations. Six comments were received on the final EIS and considered by the Agency prior to making this decision. The attached Appendix presents the agency's responses to those comments.

Copies of the final EIS and this ROD may be obtained by written request to:

Jerome Schwartz
Environmental Lead for TDWR, AND-402
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

**Section 9. Order**

The FAA has broad and pervasive authority in the fields of airspace management and air safety. Congress has authorized the FAA to acquire, establish, improve, operate and maintain air navigation systems such as TDWR (e.g., 49 U.S.C., section 44505). In accordance with that authority, the FAA certifies that a federally funded TDWR is reasonably necessary to enhance the safety of aviation at JFK and LGA Airports.

The FAA conducted a detailed environmental review of this proposed action in conformance with requirements set forth in FAA Order 1050. ID -*Policies and Procedures for Considering Environmental Impacts.* Throughout the EIS process, the FAA provided data used in the technical analysis and reviewed key portions of the analysis prior to incorporating the results into the final EIS. The FAA evaluated the technical feasibility of the proposed TDWR facility and determined which alternatives were acceptable for consideration. As the nation's aviation agency, the FAA has the ultimate technical expertise to develop, evaluate, and select actions and alternatives that will result in safe and efficient use of U.S. airspace. The Final EIS and this ROD represent the best judgment of the FAA in this key area of expertise.

Based on the extensive studies conducted to date and careful consideration of the public input received during the environmental review process, I find that installation, operation and eventual decommissioning of TDWR to serve JFK and LGA Airports at the U.S. Coast Guard Air Station Brooklyn site will not result in significant impacts on the quality of the human environment. The mitigation measures listed in Section 7 above will be implemented to minimize non-significant impacts.

I have carefully considered the FAA's goals and objectives in relation to deployment of the TDWR to serve JFK and LGA Airports, New York City, New York, as discussed and evaluated in the final EIS and ROD. This consideration includes the purpose and need for TDWR, possible alternative sites and technologies, extensive environmental review, and mitigation measures. Under the authority delegated to me by the Administrator of the FAA, I find that TDWR should be installed at the U.S. Coast Guard Air Station Brooklyn site as described in this ROD. The final EIS contains a site-specific analysis of possible environmental effects that could result from installation of TDWR at this site and concludes that significant environmental impacts will not result. Based on careful and thoughtful review of the final EIS and public and agency submissions received during the EIS process, the following factors support the decision to install TDWR at the preferred site, the U.S. Coast Guard Air Station Brooklyn site:

- TDWR at this site will provide highly effective weather-radar coverage of the principal coverage regions and microburst alert warning areas at JFK and LGA Airports

- Construction at this site is highly feasible

- Maintenance requirements of TDWR can be reasonably met at this site
- This site is available for TDWR use
- TDWR will be electromagnetically compatible with nearby electronic system
- The proposed action will be consistent with policies of the New York State Coastal Management Program
- The proposed action will result in no adverse effect on historic resources eligible for or listed on the National Register of Historic Places
- No significant impacts on legally protected species will result
- Implementation of the proposed action will conform with policies for floodplain management and protection of wetlands set forth in Executive Orders 11988 and 11990
- Implementation of the proposed action will conform with policies to prevent disproportionately high and adverse impacts on minority populations, low-income populations, and children set forth in Executive Orders 12898 and 13045
- Implementation of the proposed action will not result in direct or constructive use of properties defined in Section 4(f) of the DOT Act and will conform with policies for protection of parks, recreation areas, wildlife and waterfowl refuges, and historic properties set forth in that section.

- Implementation of the proposed action is consistent with Section 3(e) of the Gateway Act. The proposed site was acquired for transportation purposes before the Gateway NPA was designated and its historical use has been aviation. Installation of TDWR is in accordance with the Gateway *General Management Plan,* issued by the National Park service to implement the Gateway Act. This plan expressly indicates that the entire former U.S. Coast Guard Station Brooklyn, including the 1. 8 acres owned by the FAA, is designated as a nonpark use area.

Therefore, under the authority delegated to me by the Administrator of the FAA, I order that TDWR be installed at U.S. Coast Guard Air Station Brooklyn site. This decision is taken pursuant to 49 U. S.C. Subtitle VII, Part A, and constitutes a final order of the Administrator subject to review by the Courts of Appeal of the United States within 60 days from issuance in accordance with the provisions of 49 U.S. C. Section 46110. This ROD will be sent to those parties who have indicated an interest in this TDWR project. The FAA will publish a notice in the *Federal Register* and legal notices in newspapers of the affected area of New York City announcing this decision and the availability of this ROD.

James C Link

James C. Link
Leader, Integrated Product Team for Surveillance, AND-400

3/24/99
Date

**APPENDIX: Responses to Comments on the FEIS**

This appendix presents FAA's responses to comments received concerning the FEIS. The comment letters are displayed and addressed in chronological order.

**Senator Schumer/Representative Nadler/Representative Weiner letter dated February 9, 1999.**

**Response:** This letter raised three issues: blind spots for the TDWR, findings with regard to the Hart Island alternative, and concerns of the Department of the Interior. These concerns were raised earlier in the EIS process. They are thoroughly addressed in the FEIS at pages 85-88, 93-94, 98-99, 115-118, 123-124, 127, 132, 165, 173-175, 185-190 209-232, 310, 313-316 and 535, and this ROD at pages 3-5, 8, 15, 16 and 21. They are also specifically addressed in the FAA letters dated March 29, 1999 (attached). Senator Schumer and Representatives Nadler and Weiner will receive a copy of this ROD, when issued.

**Bourque, New York City Audubon Society letter dated February 20, 1999.**

Response: The issues raised in the attached letter were expressed earlier in the EIS process. They are addressed in the FEIS at pages 2, 5-9, 32-35, 45-51, 53-61, 79-84, 96-125, 325-332, 532-538 and Technical Appendices E and F, and in this ROD at pages 2-3, 5, and 6-7. Mr. Bourque was sent a copy of the FEIS and will receive a copy of this ROD, when issued.

**Taylor, U.S. Department of the Interior letter dated February 24, 1999.**

Response: The issues raised in the attached letter were expressed earlier in the EIS process. They are addressed in the FEIS at pages vii-viii, 14, 39-40, 53-56, 58-60, 65-66, 68, 79, 101-115, 122-123, 125, 209-232, 532-538, and Appendix E-33, and this ROD at pages 3-5, 12-13, and 21. They are also specifically addressed in the FAA letter dated March 18, 1999 (attached). In addition, representatives of the FAA Chief Counsel's Office met with representatives of the Department of Interior's Solicitor to discuss these issues on March 23, 1999. Mr. Taylor will receive a copy of the ROD, when issued.

**Hargrove, U.S. Environmental Protection Agency (EPA) letter dated March 3, 1999.**

Response: The EPA states that their "concerns have been adequately addressed" in the FEIS. They continue "we have concluded that the proposed project would not result in significant adverse environmental impacts; therefore, EPA has no objections to its implementation." The EPA will receive a copy of this ROD, when issued.

**Kiernan, National Parks and Conservation Association letter dated March 10, 1999.**

**Response:** The issues raised in the attached letter were expressed earlier in the EIS process. They are addressed in the FEIS at pages vii-viii, 14, 39-40, 53-56, 58-60, 65-66, 68, 79, 101-115, 122-123, 125, 209-232, 532-538, and Appendix E-33, and in this ROD at pages 3-5, 11-14, and 17-18. Mr. Kiernan was sent a copy of the FEIS and will receive a copy of this ROD, when issued.

**Sewell, Natural Resources Defense Council letter dated March 10, 1999.**

The issues raised in the attached letter were expressed earlier in the EIS process. They are addressed in the FEIS at pages vii-viii 14, 35-37, 39-40, 53-56, 58-60, 65-66, 68, 79, 101-1 15, 122-123, 125, 209-232, 532-538, and Appendix E-33, and in this ROD at pages 3 -5, 8, 11-14, 15, 16, 17-18 and 21. Mr. Sewell was sent a copy of the FEIS and will receive a copy of this ROD, when issued.